Tissue engineering produces small intestine, possible help for pre-term infants

Posted: July 7, 2011

Created: 07/07/2011 - 14:59

CIRM grantees at Children's Hospital Los Angeles and the University of Southern California have succeeded in growing normal-looking small intestines in mice.

In a press release, the senior author Tracy Grikscheit said:

> "The small intestine is an exquisitely regenerative organ. The cells are constantly being lost and replaced over the course of our entire lives," she explained. "Why not harness that regenerative capacity to benefit these children?"

The group took a small sample of small intestine from mice and placed them on a biodegradable scaffolding inside the abdomen of another mouse. That scaffolding basically gave the cells something to grow on that would mimic the shape of a normal intestine. What they found is that the transplanted cells were able to form all the cell types and structures that are normally part of the small intestine.

The paper was published in the July issue of *Tissue Engineering*.

The press release mentions the eventual hope of using the technique to help children with intestinal failure. Babies born pre-term are at risk for intestinal damage called necrotizing enterocolitis (NEC), which occurs when the intestine is injured.

Tissue Engineering, July 2011
CIRM Funding: Tracy Grikscheit (RN2-00946), Frederic Sala (TG2-01168)

Tags: childrens hospital Los angeles, Grikscheit, university of southern california, Training, New Faculty